

WHAT IS CLAIMED IS:

1. A stencil for forming heat yieldable joining material, comprising:  
at least one pattern formation member; and  
at least one channel formation portion associated with said pattern formation member.
2. The stencil of claim 1, wherein said channel is configured to form an out-gassing channel.
3. The stencil of claim 1, further comprising a plurality of pattern formation members.
4. The stencil of claim 3, wherein said channel is defined by a plurality of pattern formation members.
5. The stencil of claim 4, wherein a channel is defined between said pattern formation members.
6. The stencil of claim 5, wherein said plurality of pattern formation members comprises four pattern formation members and further comprising four channels defined between each of said pattern formation members.
7. The stencil of claim 6, wherein said channels form an 'X' pattern.
8. An electronic circuit board assembly, comprising:  
a plurality of circuit boards  
a via extending through at least one circuit board, wherein said via is coupled to at least one component pad; and  
an electronic component coupled to said component pad by forming a joining material pattern on said component pad, said joining material pattern having at least one out-gassing channel.

9. The assembly of claim 8, wherein said coupling further comprises heating said electronic circuit board assembly above a melting point of said joining material and cooling said joining material to establish a physical and electrical couple.

10. The assembly of claim 8, further comprising a plurality of vias.

11. The assembly of claim 8, further comprising a joining material mask disposed on said via.

12. The assembly of claim 8, wherein said component pad comprises a ground pad.

13. A method of coupling circuit board assembly and electronic components, comprising:  
providing a circuit board, wherein said circuit board includes at least one component pad and a via extending through at least one layer of said circuit board;  
providing an electronic component;  
disposing a joining material mask on said via;  
forming a joining material pattern on said component pad, said joining material pattern including an out-gassing channel; and  
heating said circuit board assembly and said electronic component.

14. The method of claim 13, further comprising cooling said circuit board assembly and said electronic component.

15. The method of claim 13, further comprising forming a plurality of joining material patterns on said component pad.

16. The method of claim 15, further comprising forming a plurality of joining material patterns on each of a plurality of said component pads.

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17. The method of claim 13, wherein said joining material comprises solder.
18. The method of claim 13, wherein said component pad comprises a ground pad.